

ABSTRACT OF THE DISCLOSURE

A humidity sensor is disposed in a circulation passage as a passage of a hydrogen gas supplied to an anode of a fuel cell stack. A load current setting unit determines a level of electrical current supplied to a load. A flow rate controller controls a compressor based on the humidity detected by the humidity sensor and the load current determined by the load current setting unit to regulate a flow rate of the air supplied to a cathode of the fuel cell stack for maintaining the humidity of the hydrogen gas within a predetermined range less than 100%. The fuel cell stack generates the load current efficiently without discharging the hydrogen gas to the outside.

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